



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,117	05/01/2006	Yuri Borisovich Sokolov	0155.0003US1	5024
29127 7590 05/27/2009 HOUSTON ELISEEVA 4 MILITIA DRIVE, SUITE 4 LEXINGTON, MA 02421				
EXAMINER BROCKMAN, ANGEL T				
ART UNIT		PAPER NUMBER		
2416				
MAIL DATE		DELIVERY MODE		
05/27/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/578,117

Applicant(s)

SOKOLOV ET AL.

Examiner

ANGEL BROCKMAN

Art Unit

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CI/CD)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Objections

Claims 4 and 5 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 3. See MPEP § 608.01(n). Accordingly, the claims 4 and 5 have not been further treated on the merits.

1.

Claim Rejections - 35 USC § 103

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeuchi (US 5,038,140, hereinafter Ikeuchi) in view of Lester et al.(US 6,784,790 B1, hereinafter Lester).

Regarding **claim 1**, Ikeuchi discloses one main unit (figure 1 B, A, where the main unit is the central master station) and a plurality of slave units (figure 1B, where the slave units are the slave stations C1-C11). Ikeuchi does not disclose the main unit sending a timing signal of a

predetermined form, consisting of one or several characters, which is simultaneously received by all slave units, wherein the character synchronization events all system units use zero crossing points of the fundamental harmonic of system supply network voltage and a main unit sends the timing signal strictly periodically at equal intervals while a slave unit of number N transmits its data during half-cycle N of network fundamental voltage counting from a timing signal endpoint. Lester discloses sending a timing signal of a predetermined form (figure 4A, column 5, lines 53-66, column 6, lines 1-29, where the reference pulse includes the timing signal); wherein the character synchronization events all system units system units use zero crossing points of the fundamental harmonic of system supply network voltage column 5, lines 55-65); sending a timing signal strictly periodically at equal intervals while a unit transmits its data during half cycle N of network fundamental voltage counting from a timing signal end point (column 6, lines 4-21, column 8, lines 5-14). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the timing signal as disclosed by Lester along with the system as disclosed by Ikeuchi. The master and slave units as disclosed by Ikeuchi can be manipulated through software to synchronize and generate data as disclosed by Lester. The motivation for utilizing timing signal as disclosed by Lester along with the system as disclosed by Ikeuchi is to increase the efficiency of the network.

Regarding **claim 3**, Ikeuchi discloses all subject matter of the claimed invention with the exception of source supplying a timing signal is not a system main unit but some other individual device. Lester discloses a source supplying a timing signal is not a system main unit but some other individual device (column 4, lines 61-67, column 5, lines 10-15, column 8, lines 20-47, where the IC is a micro chip or microprocessor). Thus, it would have been obvious to one of

ordinary skill in the art at the time of invention to utilize the timing signal as disclosed by Lester along with the system as disclosed by Ikeuchi. The other units as disclosed by Lester can be implemented into the system as disclosed by Ikeuchi can be manipulated through software. The motivation for utilizing another device as the timing signal as disclosed by Lester along with the system as disclosed by Ikeuchi is to increase the efficiency of the network.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeuchi (US 5,038,140, hereinafter Ikeuchi) and Lester et al.(US 6,784,790 B1, hereinafter Lester) in view of Kato et al.(US 6,021,137, hereinafter Kato).

Regarding **claim 2**, Ikeuchi and Lester disclose all subject matter of the claimed invention with the exception of absence of timing signal slave units continue data transmission within “their” half-cycles of network fundamental voltage computing their temporary location from a known half-cycle value of timing signal. Kato discloses in case of temporary absence of timing signal slave units continue data transmission within “their” half-cycles of network fundamental voltage computing their temporary location from a known half-cycle value of timing signal (see figure 6, figure 7, column 9, lines 54-66, where the period of time waited is the absence of timing signal and the polling signal is low response signal of A1 includes the computing of the half-cycle). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the method of Kato along with the system as disclosed by Lester and Ikeuchi. The system as disclosed by Ikeuchi and Lester can be manipulated through software to perform the method as disclosed by Kato. The motivation for utilizing the method as disclosed by Kato along with the system as disclosed by Ikeuchi and Lester is to increase the efficiency of the network.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeuchi (US 5,038,140, hereinafter Ikeuchi) and Lester et al.(US 6,784,790 B1, hereinafter Lester) in view of Kato (US 6,021,137, hereinafter Kato) and Tanaka et al.(US 4,998,245, hereinafter Tanaka).

Regarding **claim 4**, Ikeuchi and Lester disclose all subject matter of the claimed invention with the exception of a timing signal is subjected to modulation (figure 8, where the reference signal is subjected to the primary modulating circuit. Kato discloses a timing signal is subjected to modulation (figure 8, where the reference signal is subjected to the primary modulating circuit. Kato does not disclose broadcast data transmission from a main unit to slave ones. Tanaka discloses broadcast data transmission from a main unit to slave ones (figure 1, figure 5, column 3, lines 15-40). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the broadcast transmission of Tanaka and modulation of Kato along with the system as disclosed by Ikeuchi and Lester. The modulation and broadcast transmission as disclosed by Tanaka and Kato can be implemented into the system of Ikeuchi and Lester through software implementation. The motivation for utilizing the modulation and broadcast transmission as disclosed by Tanaka and Kato in the system as disclosed by Ikeuchi and Lester is to increase the efficiency of the system.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeuchi (US 5,038,140, hereinafter Ikeuchi) ,Lester et al.(US 6,784,790 B1, hereinafter Lester) and Kato(US 6,021,137, hereinafter Kato).

Regarding **claim 5**, Ikeuchi and Lester discloses all subject matter of the claimed invention with the exception of all signals being transmitted by a main and slave units have duration equal to 1/3 of the network voltage. Kato discloses all signals being transmitted by a main and slave units have duration equal to 1/3 of the network voltage (column 14, lines 4-10, where the certain period of time is 1/3 of the network voltage). Kato does not explicitly call this time period but Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the duration as disclosed by Kato along with the system as disclosed by Ikeuchi and Lester. The duration of the transmitted signals can be implemented using software. The motivation for utilizing the duration of 1/3 is to increase the efficiency of the system.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lampe (US 5,568,511) and Norris (US 6,002,339).
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANGEL BROCKMAN whose telephone number is (571)270-5664. The examiner can normally be reached on Monday-Friday ,7:30-5:00pm.
9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick Ferris can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANGEL BROCKMAN
Examiner
Art Unit 2416

/A. B./
Examiner, Art Unit 2416

/Derrick W Ferris/
Supervisory Patent Examiner, Art Unit 2416